REMARKS

Previously examined claims 1, 3-9, 13-24, and 26-32 and new claims 33, 34 are pending. Claims 2 and 12 were previously cancelled. Claims 10, 11 and 25 are cancelled without prejudice in this amendment. Formerly independent method claim 23 has been made to depend from new system claim 33. All previously examined and still pending claims 1, 3-9 and 13-24, and 26-32 stand rejected.

Claims 1-9, 14-17 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sims (US 6,657,616 B2) in view of Inoue et al. (US 5,831,600 hereinafter "Inoue") in further view of Ohara et al (US 5,485,176 hereinafter "Ohara"). These rejections are traversed for the following reasons.

The primary reference cited in these rejections is Sims. It was implicit in the previous Office Action rejection of these claims that Sims itself does not teach the provision of the lines being separated by an insulative sheet. It is respectfully submitted that Sims teaches the use of conductors "in spaced, interdigitated alignment with one another on a (or the) substrate...." (Sims Abstract lines 5-7; col. 1 lines 58-60, col. 2 lines 6-8 and 28-30 in the invention summary; and each of the three independent claims 1, 17 and 18. See also the Detailed Description where it is also referred to in slightly different language at col. 3, lines 4-6.) Fig. 2 of Sims shows the "two inter-digitated traces (conductors) 24 and 26" clearly being on the same side of substrate 28. (Sims col 3, lines 3-5) Sims expressly describes his system as "a capacitive keyboard interface system." (Sims col. 2: 61-62) This is contrasted by Sims with the prior art "(c)onventional capacitive touch sensing systems" which are "often implemented by the deposition of opposing conductive key pads to opposite sides of a dielectric element." (Sims col. 1, lines 16-23) The Sims system with spaced, interdigitated aligned conductors on the same side of the substrate is supposed to be an improvement over those deposited on opposite sides of a substrate.

The examiner attempts to satisfy the claim language by paraphrasing the requirement. Contrary to the rejection, claim 1 and each of the other rejected claims, which all depend from

claim 1, does not call for "a plurality of spaced apart column conductive lines separated by an electrically inclusive sheet from row of conductive lines...." It calls for " a plurality of spaced apart column conductive lines **on a first major side** of an electrically insulative sheet and a plurality of spaced apart row conductive lines transverse to the plurality of column conductive lines **on a second major side** of the electrically insulative sheet **opposite the first side**...." The conductive traces 24, 26 of Sims, no matter how the examiner divides them up, are all located on the same one major side of the substrate 28.

Furthermore, there is no other teaching or suggestion in Sims to provide rows and columns of conductive lines on opposite sides of an electrically insulative sheet, no reason to try to do so in view of the disclosed Sims invention and no basis for predicting in advance of being able to successfully do so. Given Sims' express contrast of his system with "conventional capacitive touch sensing systems ... implemented by the deposition of opposing conductive key pads to opposite sides of a dielectric element", Sims expressly teaches away from the claimed construction. Furthermore, to change the arrangement of the keypad/conductors to the same one side of a substrate or other dielectric member would impermissibly require changing the principle of operation of Sims. *In re Ratti* 270 F.2d 819, 123 USPQ 349 (CCPA 1959) and MPEP 2143.01

The Examiner's stated ground to justify the combination of Sims with Inoue, "to design a system that facilitates a more accurate simultaneous display selection system", is also unsupported. There is no evidence that the Inoue system is, in any way, "more accurate" than the Sims system. In fact, Inoue is one of the "(c)onventional capacitive touch sensing systems" referred to by Sims in his Background of the Invention and distinguished from his (Sims') invention. (Sims col. 1, lines 16-60). The combination of Inoue with Sims is unsupported.

The rejections of claims 6-9 and 29 are further particularly traversed for the following reasons. Claims 6-9 call for a "bandpass processing circuit", which in claim 9 is particularized to a bandpass filter and bandpass amplifier. Claim 29 specifically calls for "a bandpass filter selected to pass ... only those coupled signals ... at the predetermined frequency." The

examiner's reference to Sims Col. 4, lines 49-56 as disclosing a "filtering circuit .... which attenuates the signal voltages (e.g. removes the noise component and hence a bandpass filter)" mischaracterizes the Sims disclosure and is unsupported. The simple RC combination (54, 56) disclosed in Sims can be configured as either a high pass or a low pass filter but not a bandpass filter. Sims does not identify or even characterize his RC pair 54, 56 as a bandpass filter. Accordingly, the examiner's characterization of the pair as a bandpass filter is again traversed as unsupported.

The examiner's characterization of Sims disclosing a "bandpass filter" was expressly and specifically traversed in applicant's last responsive amendment. Applicant demands that the examiner either produce authority in accordance with 37 CFR 1.104(c)(2) and MPEP 2144.03 C for his characterization of the circuitry in Sims as disclosing a bandpass filter or withdraw it in the next responsive action.

The rejection of claim 7 is further specifically traversed on the additional ground that it states that the "amplified and filtered coupled RF signals are AC voltage sine wave signals." In Sims, the AC voltage signals that may be passed by the traces 24, 26 are rectified by diodes 52 disclosed by Sims col. 4, line 51 "diode 52 is used to convert the AC RF signal into DC signal" and thus are converted from sine wave signals to half wave rectified before they are filtered by RC pair 54, 56 and cannot satisfy the above-quoted language from the claim.

The rejection of claim 8 is further specifically traversed on the additional ground that claim 8 states that the "AC to DC converter transforms a peak of **the amplified and filtered** coupled RF signals to DC level signals" (emphasis added) thereby requiring the AC to DC converter to be located downstream of the bandpass processing circuit in order to operate on the "amplified and filtered ... signals." The rectifying diodes 52 disclosed by Sims are located upstream from the RC filter combination 54, 56 apparently being relied upon by the examiner as the bypass filter and therefore do not operate on "**the amplified and filtered** coupled RF signals" as expressly claimed.

The rejection of method claim 17 is traversed for the same reason as claim 8. Claim 17 calls for the step of "(d) transforming a peak of the amplified and filtered coupled RF signals to DC level signals." In Sims, the coupled RF signals are rectified to DC levels before they are filtered.

The rejection of method claim 16 is separately traversed on the grounds that Sims does not teach analyzing electrical characteristics "after an RF signal is input into all of the column conductive lines" as asserted by the examiner because Sims discloses only inputting RF signals into a single column of sensors. Claim 15 from which claim 16 depends calls for a plurality of column and a plurality of row conductive lines. Since Sims does not satisfy the requirement for multiple rows and columns itself, it cannot, by itself, satisfy the requirement of claim 16 as asserted by the examiner.

The rejections of claims 18 and 19 are further traversed as unsupported for the following reasons. First, the examiner is paraphrasing language from claim 18 in the rejection and ignoring distinguishing language in the claim. Applicant does not merely claim a "control circuit ... configured to configure and analyze a single human finger presence among a plurality of possible human finger presences detected by the scanning circuit" as asserted by the examiner. The distinguishing language from claim 18 (and in claim 19 which depends from 18) is that "the control circuit is configured to analyze **and select as a probable user input a single** probable human finger presence from among a plurality of possible human finger presences detected **simultaneously** by the scanning circuit." The examiner expressly admits in the rejection of claims 20-28 (See "Page 6" of the Office Action, first full paragraph) that neither Sims nor Inoue addresses responding to multiple detected simultaneous sensor touches/finger presences.

Furthermore, in support of this rejection of claims 18 and 19, again the examiner cites to "See Figure 6, Col.7, 27-38." Applicant has pointed out in the last responsive amendment that Inoue, the only reference specifically identified in this rejection, has neither a Figure 6 nor lines 30-38 in its column 7.

For these reasons, the rejections of claims 18 and 19 are *prima facie* unsupported.

The rejection of claim 19 is further additionally traversed as unsupported on the ground that it depends from claim 18, which calls for the selection "as a probable user input (of) a single probable human finger presence from among a plurality of possible human finger presences detected simultaneously by the scanning circuit", and adds the requirement that the selection be of "a single most northern possible human finger presence as the probable user input." Again, the rejection does not even address this requirement of the claim and is therefore, *prima facie*, unsupported.

Finally, the rejections of "Claims 20-28 ... under 35 U.S.C. 103(a) as being unpatentable over Sims (US 6,657,616 B2) in view of Ohara et al (US 5,485,176) and in further view of Westerman et al. (US 6,323,846)" are traversed for the following reasons.

Westerman is cited as disclosing "a method for integrating manual input on a touch screen display, wherein the system is capable of detecting the presence of multiple fingers (See Abstract and Col.9, 37 – col.10 38." Westerman clearly asserts the ability to detect the presence of multiple fingers and then some, but it does not disclose a "control circuit ... configured to select from among the plurality of possible human finger presences sensed simultaneously by the scanning circuit, a single most northern possible human finger presence as the probable user input;" as called for by claim 20 and each other remaining rejected dependent claim 21-22 before they were amended. Claim 24 similarly calls for "selecting a single most northern possible human finger presence as the probable user input." Amended claims 21 and 26 are further similar, each calling for a control circuit configured to select or the step of selecting "from a plurality of possible human finger presences as the user input, a single sensed possible human finger RF field entry that extends from and yet adjoins on one side of a cluster of the detected plurality of possible human finger RF field entry locations." Amended claims 22 and 27 are also similar, each calling for a control circuit selecting an audible message or a step of "instructing the user to make another selection if the control circuit is unable to select the probable user input from among the plurality of possible human finger presences sensed simultaneously by the scanning circuit." The cited portions of Westerman do not disclose or suggest any of these

limitations. The examiner's rejection of these claims do not even address these limitations. These rejections are therefore, again, *prima facie* unsupported.

New claims 33 and 34 are presented for examination. Independent claim 33 includes features listed in several of the previously examined claims but collected together in one independent claim directed more specifically to "(a)n interactive book reading system response to the presence of human fingers through pages of a book" and does not require finger contact with the sensor or its top surface. While Sims is cited by the examiner as being able to detect a human finger when the finger enters the RF field, in each of the text portions cited by the examiner in support of this characterization ("Abstract and Col 1-53-Col.2, 36"), the text repeatedly expressly describes the Sims device as having a "touch sensor" which "detects manual contact by a user" (Abstract lines 1-2, Col 1: lines 53-54, Col. 2: lines 1-2 and 23). Claim 33 expressly calls for the claimed scanning circuit to detect human finger presences above pages of a book on a spacer itself separating the book pages from the scanning circuit. There is no disclosure or suggestion of such capability by Sims.

Claim 33 further expressly calls for "a series of cross-points formed by a matrix of narrow trace width conductive lines arranged as a plurality of spaced apart column conductive lines on a first major side of an electrically insulative sheet and a plurality of spaced apart row conductive lines transverse to the plurality of column conductive lines on a second major side of the electrically insulative sheet opposite the first side." Claim 33 further expressly states that "the scanning circuit detects human finger presences above the plurality of pages through the plurality of pages and the spacer." Sims teaches at col. 2 lines 4-20 to provide plural conductors "in spaced, interdigitated alignment with one another on the substrate... which affords substantial coverage thereof by a human appendage." (Sims col. 2: 6-10). Additionally, Sims Col. 3, lines 3-20, states that interdigitated key requires a relatively large body to reduce the baseline signal and therefore reduces false signals generated by water require that the user touch sensor dielectric as disclosed by Sims col. 3, line 50. (See enclosed Declaration of David Small). None of the cited references disclosure or suggest the claimed capability.

Applicant hereby incorporates by reference each other argument previously raised by applicant in response to the prior rejections of the claims of this application.

In view of the foregoing, Applicant requests reconsideration and withdrawal of all of the rejections of the previously examined claims 1, 3-11 and 13-32 and allowance of the application and all pending claims 1, 3-11 and 13-34.

Respectfully submitted,

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